

B. REMARKS

By this amendment, Claims 2, 11, 20, 29 and 37-56 have been canceled and new Claims 57-68 have been added. Hence, Claims 1, 3, 8-10, 12, 17-19, 21, 26-28, 30, 35, 36 and 57-68 are pending in this application. The amendments to the claims and the new claims do not add any new matter to this application. All issues raised in the Office Action mailed February 16, 2006 are addressed hereinafter.

REJECTION OF CLAIMS 1-3, 8-12, 17-21, 26, 27 AND 37-51 UNDER 35 U.S.C. § 103(a)

Claims 1-3, 8-12, 17-21, 26, 27 and 37-51 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pare, Jr. et al.*, U.S. Patent No. 6,834,109 (hereinafter "*Pare*") in view of *Marchetto et al.*, U.S. Patent No. 5,513,215 (hereinafter "*Marchetto*") and further in view of *Drucker et al.*, U.S. Patent No. 6,243,414 (hereinafter "*Drucker*"). This rejection is now moot with respect to canceled Claims 2, 11, 20 and 37-51. It is respectfully submitted that Claims 1, 3, 8-10, 12, 17-19, 21, 26 and 27 are patentable over *Pare*, *Marchetto* and *Drucker* for at least the reasons set forth hereinafter.

CLAIM 1

Claim 1 is directed to a communications receiver that recites:

“a time domain equalizer;
a frequency domain equalizer; and
an update mechanism configured to update both the time domain equalizer and the frequency domain equalizer based upon performance of a communications channel from which the communications receiver receives data, wherein updating the time domain equalizer includes
determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients,
determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients,
selecting for use by the time domain equalizer, based upon the first performance data and the second performance data, either the first set of coefficients or the second set of coefficients, and
causing the time domain equalizer to use the selected set of coefficients.”

It is respectfully submitted that Claim 1 recites one or more limitations that are not taught or suggested by *Pare*, *Marchetto* and *Drucker*, considered alone or in any combination. For example, it is respectfully submitted that at least the Claim 1 limitations “wherein updating the

time domain equalizer includes determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients, determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients, selecting for use by the time domain equalizer, based upon the first performance data and the second performance data, either the first set of coefficients or the second set of coefficients” are not taught or suggested by *Pare*, *Marchetto* and *Drucker*.

The Office Action asserts that *Pare* does not teach or suggest these limitations and Applicant fully agrees with this assertion. Furthermore, *Drucker* was relied upon for teaching the limitation “update bit allocation among tones based upon the determined signal to noise ratios” which has now been moved into dependent Claim 58. These remarks are therefore limited to the *Marchetto* reference.

Marchetto describes a radio receiver apparatus that includes first and second feedback equalizers that each use a different set of coefficients. The radio receiver apparatus also includes an estimation means that selects the output of either the first or second feedback equalizer as being the most likely to correspond to the data transmitted to the radio receiver. There is no teaching or suggestion in *Marchetto* to use two different sets of equalizer coefficients with a single time domain equalizer and evaluate the relative performance of the time domain equalizer while operating with the two different sets of equalizer coefficients. In *Marchetto*, each time domain equalizer uses a single set of coefficients. Using two sets of coefficients with two different time domain equalizers as described in *Marchetto* is not functionally equivalent to using two sets of coefficients with a single time domain equalizer, since in *Marchetto*, the two time domain equalizers are functionally distinct. *Marchetto* describes that the first decision feedback equalizer sequentially processes the demodulated signal in a forward direction, while the second decision feedback equalizer sequentially processes the demodulated signal in a reverse direction. Thus, in *Marchetto*, the two decision feedback equalizers are not operating in the same manner and therefore cannot be considered equivalent to a single time domain equalizer operating with two different sets of coefficients.

In addition, Claim 1 recites “selecting for use by the time domain equalizer, based upon the first performance data and the second performance data, either the first set of coefficients or the second set of coefficients.” There is no teaching or suggestion in *Marchetto* that coefficients

for a particular time domain equalizer are ever changed or selected based upon the performance of the particular time domain equalizer when operating with different coefficients. In *Marchetto*, each decision feedback equalizer uses a single set of coefficients that are never changed.

In view of the foregoing, it is respectfully submitted that at least the Claim 1 limitations “wherein updating the time domain equalizer includes determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients, determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients, selecting for use by the time domain equalizer, based upon the first performance data and the second performance data, either the first set of coefficients or the second set of coefficients” are not taught or suggested by *Pare*, *Marchetto* or *Drucker* and that Claim 1 is therefore patentable over *Pare*, *Marchetto* and *Drucker*.

CLAIMS 3, 8 AND 9

Claims 3, 8 and 9 depend from Claim 1 and include all of the limitations of Claim 1. It is therefore respectfully submitted that Claims 3, 8 and 9 are patentable over *Pare*, *Marchetto* and *Drucker* for at least the reasons set forth herein with respect to Claim 1.

CLAIMS 10, 12, 17 AND 18

Claims 10, 12, 17 and 18 recite limitations similar to Claims 1, 3, 8 and 9, except in the context of an update mechanism. It is therefore respectfully submitted that Claims 10, 12, 17 and 18 are patentable over *Pare*, *Marchetto* and *Drucker* for at least the reasons set forth herein with respect to Claims 1, 3, 8 and 9.

CLAIMS 19, 21, 26 AND 27

Claims 19, 21, 26 and 27 recite limitations similar to Claims 1, 3, 8 and 9, except in the context of a method for configuring a communications receiver. It is therefore respectfully submitted that Claims 19, 21, 26 and 27 are patentable over *Pare*, *Marchetto* and *Drucker* for at least the reasons set forth herein with respect to Claims 1, 3, 8 and 9.

Accordingly, reconsideration and withdrawal of the rejection of Claims 1, 3, 8-10, 12, 17-19, 21, 26 and 27 under 35 U.S.C. § 103(a) as being unpatentable over *Pare*, *Marchetto* and *Drucker* is respectfully requested.

REJECTION OF CLAIMS 28, 35, 36, 52, 55 AND 56 UNDER 35 U.S.C. § 103(a)

Claims 28, 35, 36, 52, 55 and 56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pare* in view of *Marchetto* and further in view of *Drucker* and further in view of *Roberts et al.*, U.S. Patent No. 6,418,558 (hereinafter “*Roberts*”). This rejection is now moot with respect to canceled claims 52, 55 and 56. Claim 28 recites limitations similar to Claim 1, except in the context of a computer-readable medium. Claims 35 and 36 depend from and include all of the limitations of Claim 28. As set forth herein, Claim 1 recites one or more limitations that are not taught or suggested by *Pare*, *Marchetto* or *Drucker*. It is respectfully submitted that these limitations are also not taught or suggested by *Roberts*. For example, it is respectfully submitted that the Claim 1 limitations “wherein updating the time domain equalizer includes determining first performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a first set of coefficients, determining second performance data that reflects performance of the time domain equalizer when the time domain equalizer is operating with a second set of coefficients, selecting for use by the time domain equalizer, based upon the first performance data and the second performance data, either the first set of coefficients or the second set of coefficients” are not taught or suggested by *Roberts*, since *Roberts* does not teach or suggest determining the performance of a time domain equalizer operating with different sets of coefficients and then selecting a set of coefficients to be used by the time domain equalizer based upon the performance of the time domain equalizer when operating with the different sets of coefficients. It is therefore respectfully submitted that Claims 28, 35 and 36 recite one or more limitations that are not taught or suggested by *Pare*, *Marchetto*, *Drucker* or *Roberts*.

Accordingly, reconsideration and withdrawal of the rejection of Claims 28, 35, 36, 52, 55 and 56 under 35 U.S.C. § 103(a) as being unpatentable over *Pare* in view of *Marchetto* and further in view of *Drucker* and further in view of *Roberts* is respectfully requested.

REJECTION OF CLAIMS 29, 30, 53 AND 54 UNDER 35 U.S.C. § 103(a)

Claims 29, 30, 53 and 54 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pare* in view of *Marchetto* and further in view of *Drucker* and further in view of *Marchetto*. It is not clear why this rejection is stated as being based on the same reference (*Marchetto*) twice and applicant can only assume that it was intended to be based upon *Pare*, *Marchetto*, *Drucker*

and *Roberts*. In the interest of advancing the prosecution of this application, the following remarks assume that the rejection is based upon *Pare, Marchetto, Drucker* and *Roberts*.

This rejection is now moot with respect to canceled Claims 29, 53 and 54. Claim 30 recites limitations similar to Claim 3, except in the context of a computer-readable medium. As set forth herein, Claim 1 recites one or more limitations that are not taught or suggested by *Pare, Marchetto, Drucker* or *Roberts*. It is therefore respectfully submitted Claim 30 is patentable over *Pare, Marchetto, Drucker* and *Roberts* for at least the reasons set forth herein with respect to Claim 1.

Accordingly, reconsideration and withdrawal of the rejection of Claims 29, 30, 53 and 54 under 35 U.S.C. § 103(a) as being unpatentable over *Pare* in view of *Marchetto* and further in view of *Drucker* and further in view of *Roberts* is respectfully requested.

CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

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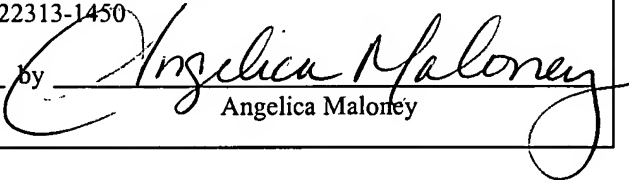
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on June 8, 2006 by



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